REMARKS

Claims 61-70, 72-82, and 84-85, 87-98 and 100 presently appear in this case. Claims 84, 85, 87-98 and 100 have been withdrawn from consideration. No claims have been allowed. The Office Action of August 24, 2010, has now been carefully studied. Reconsideration and allowance are respectfully urged.

Briefly, the present invention relates to a method for transfecting a cell with a nucleic acid molecule. To do so, the cell is contacted with a sphingoid-polyalkylamine conjugate together with the nucleic acid molecule. The sphingoid-polyalkylamine conjugate has at least two polyalkylamine chains and has the formula defined by formula (I) in the claims.

Claims 61-70 and 72-82, have been rejected under 35 USC 103(a) as being unpatentable over Miller, Jorgensen and Wheeler. The examiner states that Miller teaches a composition comprising a lipid-polyalkylamine conjugate with the lipid being cholesterol. The examiner states that the polyalkylamine that Miller teaches includes spermine and spermidine and its analogs and a carbamyl group can be used to link the lipid-polyalkylamine conjugate. The examiner concedes that Miller does not teach the use of ceramide as the lipid. However, the examiner states that Jorgensen teaches

the use of ceramide as an alternative lipid to cholesterol. The examiner states that Jorgenson establishes that cholesterol and ceramide can be used in place of each other as art recognized equivalents and that therefore it would have been *prima facie* obvious to use ceramide as the lipid in the lipid-polyalkylamine conjugate of Miller. The examiner states that both Miller and Jorgensen teach that lipid polyalkylamine compound is a cationic liposome that can be used to facilitate delivery of therapeutic agents such as DNA, mRNA, antisense oligonucleotides, proteins and drugs into cells. This rejection is respectfully traversed.

The present claims have now been amended to require the presence of at least two polyalkylamine chains or a circular polyalkylamine. Thus, the sphingoid polyalkylamine conjugate of Fig 1A of the present application is no longer included in the present claims, although those of Figures 1B, 1C and 1D are still comprehended by the present claims.

Even if it would be *prima facie* obvious to substitute a ceramide for cholesterol and the conjugates of Miller, this would not necessarily mean that at least two polyalkylamine chains would be present. It should be noted that in Miller, it would not be possible to have more than one polyalkylamine chain because cholesterol cannot provide such conjugates. Substituting a ceramide for the cholesterol of

Miller would most likely lead to the compound of Figure 1A of the present application, which is most similar to the compound that one gets using cholesterol. However, that compound is no longer comprehended by the present claims.

It has been established that the conjugates of the present invention with at least two polyalkylamine chains are greatly superior to the same compounds with only a single polyalkylamine chain and that this would not have been expected by anyone of ordinary skill in the art reading Miller, Jorgensen and Wheeler. As proof of these unexpected results, the examiner's attention is invited to the declaration of Dr. Kirill Makedonski, submitted on even date herewith. Dr. Makedonski sets forth certain experimentation that she conducted in the laboratory of the present inventors. This experimentation compares PCDCS, which is a cationic lipid with two polyalkylamine chains, as shown in Figure 1 on page 2 of the declaration, with PCCS, which is the same as PCDCS but with only a single polyalkylamine chain (see Figure 4 on page 8 of the declaration). The results show much better transfection using the constructs with two polyalkylamine chains as opposed to those with only a single polyalkylamine chain, both in the case of DNA transfection and siRNA transfection.

Accordingly, as nothing in Miller, Jorgensen or Wheeler suggest the use of constructs having at least two polyalkylamine chains and nothing in any of these references suggests that constructs having two such chains would be greatly superior in nucleic acid transfection properties to sphingoid -ceramide conjugates having only a single polyalkylamine chain, the present claims are not obvious from the combination of the references of record. Reconsideration and withdrawal of this rejection are therefore respectfully urged.

It is submitted that all of the claims now present in this case fully comply with 35 USC 112 and fully define over the references of record. Reconsideration and allowance are therefore earnestly solicited.

Respectfully submitted,

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